SAKHAROVA, L.A.

Anatomicomorphological characteristics of leaves of the irrigated and unirrigated mulberry (Morus multicaulis Perr. Morus alba L.). Izv. AN Turk. SSR. Ser. biol. nauk no.4:20-25 '64. (MIRA 17:11)

1. Turkmenskaya opytnaya stantsiya po shelkovodstvu.

PRUTSKOVA, M.G., kand. sel'khoz. nauk; UKHANOVA, O.I.; SAKHAROVA, L.I.; BOLSUNOVSKAYA, O.V.; IVANOVA, N.Ye.; LOVCHIKOV, I.S.; ZALKIND, G.N.; IL'IN, M.I.; KOZ'MINA, K.A.; SHIKUT', V.A.; PETROVA, Z.V.; GENERALOV, G.F.; BUDYUK, V.P.; GOMENYUK, L.I., red.

[New highly productive varieties of grain crops] Novye vysokoproduktivnye sorta zernovykh kul'tur. Moskva, Kolos, 1965. 319 p. (MIRA 18:8)

SAKHAROVA, L.N.; KRITSMAN, A.A.

Control of fungous diseases in Orgeyev District, Moldavian S.S.R. Zdravookhranenie 4 no. 1:48-49 Ja-F '61. (MIRA 14:2)

1. Iz bol'nitsy Orgeyevskogo rayona (glavnyy vrach - M.A. Bagmanyan).

(ORGEYEV DISTRICT—FUNGI, PATHOGENIC)

SAKHAROVA, L.P.

Lamblious cholecystitis with a high eosinophilic and leukemoid reaction and with cirrhosis of the liver. Vrach.delo no.10:105-106 O '60. (MIRA 13:11)

1. Kafedra terapii (zav. - dotsent Ye.I.Lekhtenshteyn) sanitarno-gigiyenicheskogo fakul'teta Kiyevskogo meditsinskogo instituta.
(GIARDIASIS)
(GALL BLADDER--DISEASES)
(LIVER--CIRRHOSIS)

SAKHAROV, L. V.

Sakharov, L. V. "The production of powdered concentrates", Gidroliz. prom-st' SSSR, 1948, no. 5, P. 20.

SO: U-2888, 12 Feb. 53, (Letopis' Zhurnal 'nykh Statey, No. 2, 1949).

1. SAKHAROVA, M. A.

2. USSR (600)

4. Nazaran' Hills - Gas, Natural

7. Survey of bacteria in the area of the Nazaran' Hills (North Ossetian A.S.S.R.).
/Abstract./ Izv. Glav. upr. geol. fon. no. 3, 1947.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

SAKHAROVA, M.F. (Yaroslavl').

Growing crystals. Khim. v shkole 13 no.3:44-45 My-Je '58. (MIRA 11:5)

(Crystallization)

KHEYLO, Ernest Sergeyevich; SAKHAROVA, M.I., red.

[Life outside of the earth] Zhyttia za mezhamy Zemli.
Kyiv, Naukova dumka, 1964. 62 p. (MIRA 17:11)

SAKHAROVA, M.M.

EXCERPTA MEDICA Sec.12 Vol.11/3 Ophthalmology Mar57

419. SACHAROVA M. M. Eye Dept., Grosny Reg. Hosp. *An ophthalmological affection based on leptospirosis without jaundice (Russian text) VESTN. OFTAL. 1955, 34/1 (17-22)

In Grosny, leptospirosis has been known since 1948; up to 1953, about 2300 cases were determined. In the visual organ, the complications manifest themselves mainly as iridocyclitis, but in refractory neuritis of the optic nerve this disease should also be borne in mind. Approximately 30 cases of the second serological type were collected (Monjakov). In iridocyclitis, local treatment was usual, in acute cases 2% procaine retrobulbarly. In general, antibiotics, blood transfusions and a milk diet were used. The majority of the cases are soon improved. However, there are severe cases, which even make enucleation necessary or in which complicated cataracts or permanent turbidity of the media persist.

Handmann - Eilenburg (XII, 20)

SAKHAROVA, M.M

Name: SAKHAROVA, M. M.

Dissertation: Eye involvement in mud fever in Groznyy Province

Degree: Cand Med Sci

Defended at:
Affiliation: Kuban' State Med Inst imeni Krasnaya Armiya

Publication
~~Defense Date~~, Place: 1956, Krasnodar

Source: Knizhnaya Letopis', No 4, 1957

GURTOVENKO, Ernest Andreyevich[Hurtovenko, E.A.]; SAKHAROVA, M.I., red.

[The quiet sun] Spokiine sontse. Kyiv, Naukova dumka, 1965. 43 p. (MIRA 18:9)

SAKHAROVA, M.I.

Some results of the study of microbenthos in Ucha Reservoir.
Biul.MOIP.Otd.biol. 70 no.5:119-122 S-O '65.
(MIRA 18:12)

ACCESSION NR: AP4030348 S/0249/64/020/001/0031/0033

AUTHOR: Lyatifova, L. A.; Sakharova, M. M.

TITLE: Catalysis over an organic semiconductor based on polyacrylonitrile

SOURCE: AN AzerbSSR. Doklady*, v. 20, no. 1, 1964, 31-33

TOPIC TAGS: catalysis, organic semiconductor, polyacrylonitrile, polymeric carbon, pyrolyzed polyacrylonitrile, pyrolyzed polymer, semiconducting polymer, formic acid decomposition, isopropyl alcohol, decomposition

ABSTRACT: A study has been made of the catalytic activity of an organic semiconductor, designated PAN-3 — heat-treated polyacrylonitrile with 0.14% Ni as the nitrate added prior to heat treatment. This research was performed at the Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AN SSSR). The electrical conductivity of PAN-3 at room temperature was 5×10^{-7} ohm^{-1} cm^{-1}; the specific surface, 1.3 m^2/g. Catalytic decomposition of formic acid

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ACCESSION NR: AP4030348

or isopropyl alcohol over PAN-3 heat treated at 300 and 400C, respectively, was studied. In the case of formic acid, marked catalytic activity was exhibited. However, both in catalytic activity and in selectivity with respect to formic acid dehydrogenation, PAN-3 was somewhat inferior to metal-free or copper-containing polyacrylonitrile semiconductors. The apparent activation energy of decomposition of formic acid determined from a plot of log(decomposition rate) versus reciprocal temperature was 15.2—15.8 kcal/mol. In the case of isopropyl alcohol, PAN-3 showed no marked catalytic activity in the 287—381C range. However, no definite conclusions as to the catalytic activity of PAN-3 in isopropyl alcohol decomposition could be drawn, because partial decomposition of polyacrylonitrile took place during its heat treatment at 400C. The authors thank S. Z. Roginskiy, Corresponding Member, AN SSSR, and B. B. Krentsel', Doctor of Chemical Sciences, in whose laboratories this work was carried out. Orig. art. has: 1 figure and 1 table.

ASSOCIATION: IKhF AN SSSR

SUBMITTED: 05Nov62 DATE ACQ: 30Apr64 ENCL: 00

SUB CODE: CH NO REF SOV: 009 OTHER: 001

Card 2/2

SAKHAROVA, M.M., kand. med. nauk; EL'KINA, E.B.

Results of conducting preventive screenings for glaucoma in Groznyy in 1962. Sbor. nauch. trud. SOGMI no.14:65-67 '63.
(MIRA 18:9)

1. Glaznoye otdeleniye Respublikanskoy bol'nitsy Checheno-Ingushskoy ASSR, Groznyy.

SAKHAROVA, M.M., kand. med. nauk; VIL'TSING, M.R.

Congenital and juvenile glaucoma according to data collected for 6 years at the ophthalmological department of the Republic Hospital of the Chechen-Ingush A.S.S.R. Sbor. nauch. trud. SOGMI no.14:87-90 '63. (MIRA 18:9)

1. Glaznoye otdeleniye Respublikanskoy bol'nitsy Checheno-Ingushskoy ASSR, Groznyy.

KONOKOTIN, G. S.; SAKHAROVA, M. N.

Fisheries

Means of lengthening the working season in sprat canneries. Ryb. khoz. 28, No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED.

SAKHAROVA, M.P.

DMOKHOVSKIY,V.K., professor, zasluzhennyy deyatel' nauki i tekhniki;
ZAYTSEV,V.K., inzhener; SAKHAROVA,M.P., inzhener

Methods of planning measures for stabilizing earthen road beds.
Tekh.zhel.dor.6 no.12:19-20 D'47. (MIRA 8:12)
(Railroads--Earthwork) (Soil stabilization)

SOV/46-5-2-15/34

AUTHOR: Sakharova, M.P.

TITLE: An Asymptotic Representation of the Acoustic Field of a Point Source in a Wedge-Shaped Region (Asimptoticheskoye predstavleniye zvukovogo polya tochechnogo istochnika v klinovidnoy oblasti)

PERIODICAL: Akusticheskiy zhurnal, 1959, Vol 5, Nr 2, pp 215-220 (USSR)

ABSTRACT: The author obtains an asymptotic representation of an acoustic field of a point source in a wedge-shaped region with either perfectly soft or perfectly hard boundaries. The representation applies at large distances from the source, and it is convenient for numerical calculations in the case of small angles of the wedge. It is shown that the acoustic field in the region of geometrical shadow decreases with increase of distance along the wedge edge according to a power law in which the exponent depends only on the wedge angle. The paper is entirely theoretical. Acknowledgment is made to G.D. Malyuzhinets who directed this work. There are 5 figures and 4 references, of which

Card 1/2

SOV/46-5-2-15/34

An Asymptotic Representation of the Acoustic Field of a Point Source in a Wedge-Shaped Region

3 are Soviet and 1 translation from English into Russian.

ASSOCIATION: Kafedra akustiki Moskovskogo gosudarstvennogo universiteta
(Chair of acoustics, Moscow State University)

SUBMITTED: September 17, 1958

Card 2/2

SAKHAROVA, M. P. Physician Cand. Med. Sci.

Dissertation: "Morphological Modifications of the Endocrine Glands During Suppurative-Resorptive Fever and Traumatic Exhaustion." Second Moscow State Medical Inst. imeni I. V. Stalin, 21 Apr 47.

SO: Vechernyaya Moskva, Apr, 1947 (Project #17836)

SAKHAROVA, M. P.

"Morphological Changes in the Endocrine Glands Brought about by Suppurative-Resorbed Fever and Traumatic Emaciation" Arkh. Patol, XI No. 5, 1949. (Chair of Pathological Anatomy, Second Moscow State Med. Inst. imeni Stalin) -1948-.

SAKHAROVA, M. P.

"The Problem of the So-Called Osteosclerotic Leukemia," Klin. Med., 27, No. 4, 1949. Prof., Moscow, Pathologo-Anatomical Lab. of the Central Order of Lenin Inst. of Hematology and Blood Transfusion of Acad. Med. Sci. USSR Corr. Memb. Acad. Med. Aci. USSR, -c1949-.

L 64304-65 EPF(n)-2/EED(b)-3/EWT(1)/ETC(m) IJP(c) WW

ACCESSION NR: AP5013704 UR/0046/65/011/002/0215/0221

534.26 + 534.232 44 35 B

AUTHOR: Sakharova, ~~M. P.~~ 44,55

TITLE: Concerning one asymptotic representation of the field of a distributed radiator with a given volume velocity distribution in a wedge-shaped region

SOURCE: Akusticheskiy zhurnal, v. 11, no. 2, 1965, 215-221

TOPIC TAGS: acoustic field, acoustic radiation, radiation source, sound propagation 21 44,55

ABSTRACT: This is a continuation of earlier work by the author (Akust. zh. v. 5, no. 2, 215-220, 1959), where an asymptotic representation was obtained for the field of a zero-order point source situated in a wedge-shaped region. In this paper the author obtains a similar solution for the sound field of a distributed source with specified volume velocity distribution in a wedge-shaped region with perfectly elastic or perfectly inelastic boundaries. An exact expression is first obtained for the field of a distributed source in the wedge-shaped region. An asymptotic representation is then obtained for the solution, in the form of a product of a factor corresponding to a spherical wave and a function defining the directivity pattern. Procedures facilitating the computation of the directivity patterns of the distributed radiators located in a wedge-shaped region are described.

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ACCESSION NR: AP5013704

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It is shown that for certain spatial distributions of the volume sources the directivity patterns are proportional to the product of the directivity patterns of a distributed source in free space and of a zero-order spherical source in the wedge-shaped region. "The author thanks A. A. Tuzhilin and I. A. Urusovskiy for valuable consultations." Orig. art. has: 6 figures and 13 formulas. 44,55

ASSOCIATION: Akusticheskiy institut AN SSSR, Moscow (Acoustic Institute, AN SSSR)

SUBMITTED: 20Jul64 ENCL: 00 SUB CODE: GP 44,55

NR REF SOV: 006 OTHER: 000

Card 2/2

SAKHAROVA, M.S.; TSVETKOV, A.I.

Hydromica from ore veins of Gornaya Racha. Trudy Min. muz. no.11:191-195 '61. (MIRA 16:7)

(Georgia---Hydromica)

SAKHAROVA, M.S.

Bismuth sulfo salts of the Ustarasay deposits. Trudy Min.muz. no.7:112-126 '55. (MLRA 9:5)

(Ustarasay--Bismuth)

SAKHAROVA, M.S.

Mineral composition and characteristics of ore formation in Gornaya Racha ferberite-antimony deposits. Geol. rud. mestorozh. no.2:63-73 Mr-Ap '59. (MIRA 12:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Georgia--Ferberite) (Georgia--Antimony ores)

SAKHAROVA, M.S., KOCHEROVSKAYA, L. V., FEDOROVA, M. Ye.

Hydroromeite from Gornaya Racha. Vest. Mosk. un. Ser. biol., pochv., geol., geog. 14 no.3:149-155 '59. (MIRA 13:6)

1. Kafedra mineralogii Moskovskogo universiteta.
(Georgia--Hydroromeite)

GODOVIKOV, A.A.; SAKHAROVA, M.S.

Some remarks concerning IU.S. Nesterova's works on the results of chemical analyses of sulfides and related minerals. Geol. i geofiz. no.8:89-94 '63. (MIRA 16:10)

(Mineral--Analysis)

SAKHAROVA, M.S.; NEKRASOV, Ye.M.

Mineralogical and geochemical characteristics and conditions governing the localization of new types of gold-sulfide ores in the Darasun deposit. Geol. rud. mestorozh. 6 no.3:39-55 My-Je '64 (MIRA 18:1)

1. Kafedra mineralogii Moskovskogo gosudarstvennogo universiteta i TSentral'nyy nauchno-issledovatel'skiy gornorazvedochnyy institut tsvetnykh, redkikh i blagorodnykh metallov, Moskva.

L 8954-65 EWG(j)/EWA(k)/FBD/EWT(l)/EWT(m)/EEC(k)-2/EEC(t)/T/EEC(b)-2/EWP(k)/EWP(q)/
EWA(m)-2/EWA(h) Pn-4/Po-4/Pf-4/Peb/Pi-4/Pl-4 IJP(c)/ASD(a)-5/RAEM(t)/ASD(d)/
ESD(gs)/AFETR/SSD/ESD(t)/RAEM(a)/BSD/AFWL WG/WH

ACCESSION NR: AP4043693 S/0109/64/009/008/1542/1545

AUTHOR: Mikaelyan, A. L.; Gardash'yan, V. M.; Sakharova, N. A.; B
Turkov, Yu. G.

15

TITLE: Experimental investigation of ruby laser energy characteristics

SOURCE: Radiotekhnika i elektronika, v. 9, no. 8, 1964, 1542-1545

TOPIC TAGS: laser, 25 ruby laser, xenon flash lamp, pumping energy, laser output energy, transmission coefficient, laser efficiency

ABSTRACT: The lasers used in this experiment consisted of a ruby rod and a linear xenon flash lamp placed side by side in a polished oval reflector. The investigated ruby specimens were 60, 80, and 120 m long and 6 to 12 mm in diameter. The optical axes of all specimens were perpendicular to the axis of the rod. The working interval of the pumping lamps was 80 and 120 mm, and their inside diameter was 6.4 mm. Flat dielectric mirrors placed at a distance of 10—20 cm from the ruby were used as cavity resonators. Relatively low pumping levels (up to 1000—1200 joules), which make it possible to produce

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L 8954-65

ACCESSION NR: AP4043693

lasers operating under periodic regimes, were utilized during the investigation. The following conclusions were reached: 1) mirror misalignment within 15—20" has virtually no effect on the value of threshold energy, and at higher degrees of misalignment the threshold increases considerably; 2) an increase in the transmission coefficient of the optical resonator brings about a proportional increase in output energy; with a further increase of the transmission coefficient radiated energy continues to increase as compared to absorbed energy; however, in this case also the threshold noticeably increases and the increase in output energy is slowed down; finally, at very high transmission coefficients the threshold increases to such a degree that radiation sharply decreases or disappears altogether; the maximum of output energy is obtained at transmission coefficients of the order of 50—70%; 3) the optimum transmission coefficient increases with an increase in specimen length; 4) when the diameter of the ruby considerably exceeds the internal diameter of the lamp, its decrease has no noticeable effect on the value of the absorbed energy and results in an increase in the density of ruby pumping energy, a decrease in threshold energy, and an increase in output energy. When the transverse dimensions of lamp and ruby are approximately equal, a decrease

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L 8954-65

ACCESSION NR: AP4043693

in ruby diameter results in both a decrease in the absorbed pumping energy, and a decrease of radiation energy, and has hardly any effect on threshold energy; 5) the efficiency of the laser increases with an increase in pumping energy. When the latter is of the order of 600 joules, efficiency is approximately 0.7%. Orig. art. has: 6 figures and 5 formulas.

ASSOCIATION: none

SUBMITTED: 03Sep63 ATD PRESS: 3105 ENCL: 00

SUB CODE: EC NO REF SOV: 000 OTHER: 000

Card 3/3

SAKHAROVA, N. A.

GOLIK, YE. M. - ml. nauchn. sotr. i, SAKHAROVA, N. A. - inzh., CHEREPOVA, O. V. - O. St. nauch. sotr., ABRAMOVICH, M. D. - Inzh.

Institut stroitel'nykh materialov Akademii arkhitektury USSR

RAZRABOTKA TEKHNOLOGII POLUCHENIYA DVUSLOINYKH KERAMICHESKIKH PLIT DLYA OBLITSOVKI FASADOV Page 102

SO: Collection of Annotations of Scientific Research Work on Construction, completed in 1950, Moscow, 1951

SAKHAROVA, N.A., inzh.; KHOMYAKOV, Ye.M., kand. tekhn. nauk; GOLIK, Ye.M., inzh.

Evaluating the specific crushing strength of ceramic materials. Nov. v stroi. tekh., no.5:5-21 '54. (MIRA 10:11)

1. Nauchno-issledovatel'skiy institut stroitel'nykh materialov Akademii arkhitektury USSR.

(Ceramic materials--Testing)

SAKHAROVA, N. A.

SAKHAROVA, N. A.: "Investigation of the effect on the properties of structural ceramics of the calcium carbonate in marlaceous clays". Kiev, 1955. Academy of Architecture Ukrainian SSR. Sci Res Inst of Construction Materials. (Dissertations for the degree of Candidate of Technical Science.)

SO: Knizhnaya Letopis' No. 50 10 December 1955. Moscow.

SAKHAROVA, N.A., kandidat tekhnicheskikh nauk.

Ceramic MK tiles used for facing buildings in Kiev. Nov.v stroi. tekh. no.8:80-90 '56. (MLRA 9:11)
(Kiev--Façades) (Ceramics) (Tiles)

CHEREPOVA, O.V., kandidat tekhnicheskikh nauk; SAKHAROVA, N.A., kandidat tekhnicheskikh nauk; GOLIK, Ye.M., inzhener.

Weatherproofness of ceramic facings. Nov.v stroi.tekh. no.8: 91-124 '56. (MLRA 9:11)

(Façades) (Ceramics)

LATASH, M.Ya., kand. tekhn. nauk; SAKHAROVA, N.A., kand. tekhn. nauk;
ZASLAVSKAYA, T., red.; ZELENKOVA, Ye., tekhn. red.

[Porous fillers for lightweight concrete keramzit and termozit]
Poristye zapolniteli dlia legkikh betonov - keramzit i termozit;
informatsionnoe soobshchenie No.3. Kiev, Gos. izd-vo lit-ry po
stroit. i arkhit. USSR, 1957. 21 p. (MIRA 11:7)
(Lightweight concrete) (Keramzit)

ZHUKOV, A., kand. tekhn. nauk; SAKHAROVA, N., kand. tekhn. nauk; INOSOVA, N., inzh.; DIKOVA, S., inzh.

Technological characteristics of producing double-layer facing bricks. Stroi. mat. 4 no.12:15-16 D '58. (MIRA 11:12)
(Brickmaking)

SAKHAROVA, N.A., kand. tekhn. nauk; SKATYNSKIY, V.I., kand. tekhn.nauk

Creep and shrinkage of faced brick columns. Nov. v proizv. stroi. mat. no.1:101-110 '59. (MIRA 12:12)
(Kiev--Building, Brick) (Creep of materials)

SAKHAROVA, N.A., kand. tekhn. nauk; GOLIK, Ye.M., inzh.

Effect of moisture on the expansion of ceramic products. Nov. v proizv. stroi. mat. no.1:170-184 '59. (MIRA 12:12)
(Ceramics) (Dampness in buildings)

CHEREPOVA, O.V.; SAKHAROVA, N.A.; GOLIK, Ye.M.; PARNOVSKIY, L.K.;
GUMENYUK, Ye.L.

Light colored glazed tiles. Stek. i ker. 18 no.7:24-26 Jl '61.
(MIRA 14:7)

(L'vov—Tiles)

GOVOROV, A.A.; KOSHKIN, V.A.; GORDIN, O.V.; TUZOVSKIY, A.I.; SAKHAROVA, N.A.;
LYMAR', A.I.

Effect of the temperature of the end of rolling on the mechanical properties of rail steel. Izv. vys. ucheb. zav.; chern. met. 6 no.8:137-140 '63. (MIRA 16:11)

1. Sibirskiy metallurgicheskiy institut i Kuznetskiy metallurgicheskiy kombinat.

GRDINA, Yu.V.; KOSHKIN, V.A.; GORDIN, O.V.; SAKHAROVA, N.A.

Inoculation of rail steel. Izv. vys. ucheb. zav.; chern. met.
6 no.10:129-133 '63. (MIRA 16:12)

1. Sibirskiy metallurgicheskiy institut.

SAKHAROVA, N.A.; LYMAR', A.I.

Determination of austenite grain size in rail steel. Zav.lab. 29 no.2:199-200 '63. (MIRA 16:5)

1. Kuznetskiy metallurgicheskiy kombinat.
(Austenite) (Steel--Metallography)

MIKHAYLETS, Nikolay Semenovich; GORELKINA, Aleksandra Yevseyevna;
KOSHKIN, Vladimir Andreyevich; NIKULIN, Nikolay Grigor'yevich;
DARUSHIN, Ratmir Ivanovich; SAKHAROVA, Nina Alekseyevna;
LYMAR', Adol'f Ivanovich; LOSKUTOVA, Lyudviga Vladimirovna;
RUDNEVA, Raisa Semenovna

[Manufacture of rails at the Kuznetsk Metallurgical Combine]
Proizvodstvo rel'sov na Kuznetskom metallurgicheskom kombinate.
Moskva, Izd-vo "Metallurgiia," 1964. 222p. (MIRA 17:6)

CHEREPOVA, O.V., kand.tekhn.nauk; SAKHAROVA, N.A., kand.tekhn.nauk; GOLIK, Ye.M., inzh.

Opaque, colored glazes. Stek. i ker. 22 no.3:29-30 Mr '65. (MIRA 18:10)

1. Nauchno-issledovatel'skiy institut stroitel'nykh materialov i izdeliy.

ZHUKOV, A.V.; SAKHAROVA, N.A.; SHELUNTSOV, V.I.; INOSOVA, N.L.; YATSUNOVA, G.Ye.

Colored facing tile of semi-dry pressing from tile raw material. Stroi. mat., det. i izd. no. 2:91-105 '65 (MIRA 19:1)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut stroitel'nykh materialov i izdeliy, Kiyev (for Zhukov, Sakharova). 2. Kiyevskiy eksperimental'no-issledovatel'skiy zavod (for Sheluntsov, Inosova, Yatsunova).

SAKHAROVA, N.A.; CHEREPOVA, O.V.; GOLIK, Ye.M.

Colored coating for slag pyrocerams. Stroi. mat., det. i izd. no. 2:105-114 '65 (MIRA 19:1)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut stroitel'nykh materialov i izdeliy, Kiyev.

ZHUKOV, A.V., doktor tekhn.nauk; ABRAMOVICH, M.D., kand.tekhn.nauk; SAKHAROVA, N.A., inzh.; KUROLAPNIK, S.D., inzh.; DROBOT, N.K., inzh.

Carpet-pattern tiles made by dry-pressing for the finishing of wall panels. Stek.i ker. 22 no.10:28-30 O '65. (MIRA 18:12)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut stroitel'nykh materialov i izdeliy (NIISMI), Kiyev.

SAKHAROVA N.P.

2

PROCESSES AND PROPERTIES INDEX

The system sodium iodide–potassium iodide–furfural. A. G. [illegible], N. P. Sakharova, and O. K. Antropov (Kuibyshev Ind. Inst.). *J. Gen. Chem.* (U.S.S.R.) 17, 2208-12(1947)(in Russian).—Analytical data (wt.% NaI, KI, $C_5H_4O_2$ in soln., wt.% NaI, KI in solid phase) of the ternary points detd. are: at 20°: 0, 6.0, 94.0, 0, 100.0; 6.5, 3.4, 90.1, 57.0, 43.0; 7.4, 2.9, 89.7, 76.3, 23.7; 11.2, 2.8, 86.0, 78.5, 21.5; 12.2, 2.7, 85.1, 88.5, 11.5; 20.5, 0, 79.5, 100.0, 0; at 30°: 0, 4.5, 95.5, 0, 100.0; 1.9, 5.3, 92.8, 17.4, 82.6; 5.0, 4.6, 90.4, 48.0, 52.0 ;9.1, 2.9, 88.0, 83.8, 16.2; 16.2, 1.6, 82.2, 97.1, 2.9; 24.0, 0, 76.0, 100.0, 0; at 40°: 0, 3.1, 96.9, 0, 100.0; 4.8, 1.8, 93.4, 28.2, 71.8; 5.0, 1.8, 93.2, 67.5, 32.5; 5.3, 1.7, 93.0, 88.4, 11.6; 13.0, 1.6, 85.4, 98.5, 1.5; 27.2, 0, 72.8, 100.0., 0. The tie-lines meet, beyond the curve of beginning crystn., at the $C_5H_4O_2$ apex of the triangle. The system forms no compds., and the equil. is detd. by the initial compn. The soly. of NaI increases with rising temp., that of KI decreases. No effect of the common ion is noticeable.

N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SAKHAROVA, N. F.

PA 65/49T16

USSR/Chemistry - Arginine Apr 49
Methanol, Solutions

"The Effect of Arginine on the Equilibrium of Methanol Solutions of NaI - KI," A. G. Sarkisov, N. F. Sakharova, G. Ye. Antropov, Lab of Gen Chem, Kuybyshev Ind Inst, 5½ pp

"Zhur Obshch Khim" Vol XIX, No 4 p. 636-41

Investigation of the effect of arginine at 30° determined that the solubility of NaI, KI, and their mixtures is less in the presence of the arginine than it is in pure methanol. Submitted 23 Dec 47.

[illegible] 65/49T16

TRUSOV, V.V., inzh.; SAKHAROVA, N.G., inzh.

Economics at the plant. TSement 30 no.6:16-17 N-D '64.
(MIRA 18:1)

1. Vol'skiy tsementnyy zavod "Bol'shevik". 2. Glavnyy ekonomist Vol'skogo tsementnogo zavoda "Bol'shevik" (for Sakharova).

13C4 SAKHAROVA, N.M.

Influence of spruce on soil in a forest. M. I. Sakharov and N. M. Sakharova (*Pochvovedenie*, 1951, 329—337; *Soils & Fert.*, 1951, **14**, 495—496).—Mixing spruce with pine, birch, or aspen retarded the warming of the soil during insolation and its cooling during periods of radiation. Presence of spruce reduced evaporation from the soil and also increased the retention of rain by the tree canopy. Excess of spruce needles in the litter prevented the development of herb or moss ground flora and affected the composition of the soil fauna, favouring mites, spiders, centipedes, and millipedes. Spruce intermixtures accelerated podzolisation.

C. B. North.

SAKHAROVA, N.M.

Effect of spruce on some factors of microclimate in a forest and on the herbaceous plants growing under the forest canopy. Bot.; issl. Bel. otd. VBC no.6:136-140 '64. (MIRA 18:7)

SOV/133-59-2-23/26

AUTHORS: Boyko, M.Ye., Gulunov, V.S., Yazikov, I.M., Prikhodchenko, M.M. and Sakharova, N.M. Engineers

TITLE: From the Experience of Operation of Recuperative Soaking Pits (Opyt ekspluatatsii rekuperativnykh nagrevatel'nykh kolodtsev)

PERIODICAL: Stal', 1959, Nr 2, pp 170-175 (USSR)

ABSTRACT: The development of the soaking pit practice on the Chelyabinsk Works is described. The recuperative soaking pits fired with a mixture of coke-oven and blast furnace gas (cal. value 2100 k cal/m^3) with air preheated to 650-800°C are heating ingots from an average temperature of 780°C (for 88-90% of ingots) to 1120-1290°C (fig.1). The weight of the ingots varies from 2.65 ton to 6.2 ton (average 5.1 ton). Main points: the introduction of the removal of liquid slag, using additions of a carbonaceous mass (60-65% coke breeze, 30-35 quartz sand and 5-7% of lime) in an amount of 1.1 - 1.2 ton after every 14-16 charges and experimental heating of ingots in a low oxidising atmosphere (air excess coefficient 0.85-0.90)

Card 1/2

SOV/133-59-2-23/26

From the Experience of Operation of Recuperative Soaking Pits

which reduces the formation of scale by 30% but with a 4.4% increase in the consumption of fuel. There are 5 figures, 2 tables and 6 Soviet references.

ASSOCIATION: Chelyabinskiy Metallurgicheskiy Zavod (Chelyabinsk Metallurgical Works)

Card 2/2

SAKHAROVA, N.M.

S/133/62/000/003/007/008
A054/A127

AUTHORS: Blokhin, Ye. P., Samoylovich, Yu. A., Gulunov, V. S., Sakharova, N. M., Liberman, L. F., Zolotuyeva, S. M.

TITLE: Accelerated heating of stainless steel ingots in heating pits with central burner

PERIODICAL: Stal', no. 3, 1962, 276 - 279

TEXT: At the Chelyabinskiy metallurgicheskiy zavod (Chelyabinsk Metallurgical Plant) the cold 1Х18Н9Т (1Kh18N9T) stainless steel ingots are reheated for 15 - 19 hours prior to rolling in recuperating heating pits with central burner; in the first 10 - 11 hours a temperature of 1,280 - 1,300°C is attained, depending on the ferrite-content (alpha-phase) of the steel. The holding time is 5 - 8 hours; the ingot surface temperature is kept below 1,240-1,200°C. Tests were made to increase the reheating rate. Ingots of 530 x 530 - 620 x 620 mm (widening upward), weighing 4.5 tons were tested in the heating pit, with liquid slag skimming and fired with blast-furnace coke-gas (calorific value: 2,200 cal/standard m^3). 13 ingots were heated at the maximum rate with a holding time of not longer than 1 1/2 - 2 hours; the entire heating period lasted 7 1/2 hours.

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The test ingot surface temperature was 1,280 - 1,300°C. At the same time check tests with the conventional 19-hours heating period and at a pit-temperature of 1,260 - 1,270°C were carried out. In the accelerated method a temperature of 1,280°C of the ingot surface was attained in 6 hours. The temperature differential in the middle section was 80°C and could be reduced to 30°C during the next 1 - 1 1/2 hours holding time. Over the height of the ingot, the maximum temperature differential was 100 - 150°C at the beginning of heating, but it was reduced after 3 - 4 hours in the accelerated process (in the conventional process this required 6 - 7 hours). The ingots reheated by the accelerated process had good rolling properties. There were no rejects in blooms due to surface defects and microstructure; the quick reheating process (at raised temperatures) did not increase the alpha-phase content of the finished product. The rejects of rolled products due to dross and haircracks were also reduced. As during accelerated heating the maximum temperature differential in the cross section between the ingot surface and the coldest point of the ingot may attain 550 - 650°C, the effect of heat stresses arising in the first period of heating had to be determined. Calculations (partly carried out by Yu. A. Samoylovich on a Strela computer), taking into account the high ductility of 1Kh18N9T grade steel, showed that at Δt_{max} = 650°C the stresses are reduced from 118 to 66 kg/mm^2. As the tensile

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strength of 1Kh18N9T steel specimens is rather high (above 150 kg/mm^2), the possibility of rupture due to heat stresses is remote. The accelerated reheating tests supported the accuracy of these calculations. There are 4 figures, 1 table and 7 Soviet-bloc references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki (All-Union Scientific Research Institute of Metallurgical Heat Technique) and Chelyabinskiy metallurgicheskiy zavod (Chelyabinsk Metallurgical Plant)

BLOKHIN, Ye.P.; SAMOYLOVICH, Yu.A.; GULUNOV, V.S.; SAKHAROVA, N.M.;
LIBERMAN, L.F.; ZOLOTUYEVA, S.M.

Rapid heating of stainless steel ingots in soaking pits with central heating. Stal' 22 no.3:276-279 Mr '62. (MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki i Chelyabinskiy metallurgicheskiy zavod.
(Steel, Ingots) (Furnaces, Heating)

GULUNOV, Vasiliy Slangeriyevich; ZOLOTUYEVA, Svetlana Mikhaylovna;
LIBERMAN, Lev Fedorovich; SAKHAROVA, Ninel' Maksovna;
SAPIR, Yakov Romanovich; GOLUBCHIK, R.M., red.;
DOBUZHINSKAYA, L.V., tekhn. red.

[Metal heating before rolling] Nagrev metalla pered prokatkoi; spravochnik dlia rabochikh. [By] V.S.Gulunov, i dr. Moskva, Metallurgizdat, 1963. 220 p. (MIRA 16:10)
(Rolling (Metalwork))--Equipment and supplies)
(Furnaces, Heating—Handbooks, manuals, etc.)

KCNCKOTIN, G. S., SAKHAROVA, N. N.

Fisheries

Means of lengthening the working season in sprat canneries. Ryb. khoz., 28, No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

PANASENKOV, N.S., N.S., dotsent, red.; SAKHAROVA, N.N., red.; POGREBINSKAYA, L.V., otv. za vypusk; STAPANOV, B.T., tekhn.red.

[Bibliography of works from the Omsk Agricultural Institute, 1918-1958] Bibliograficheskii sbornik Omskogo sel'skokhoziaistvennogo instituta imeni S.M.Kirova, 1918-1958. Pod red. N.S. Panasenkova i N.N.Sakharovoi. Omsk, 1959. 221 p. (MIRA 13:3)

1. Omsk. Sel'skokhozyaystvennyy institut. 2. Zaveduyushchaya bibliotekoy Omskogo sel'skokhozyaystvennogo instituta imeni S.M. Kirova (for Sakharova).
(Bibliography--Agriculture)

C A SAKHAROVA, N.N.

Double salts of lanthanum, cerium, praseodymium, and neodymium with tetraphenylphosphonium nitrate. G. V. Medoks and N. N. Sakharova (N.G. Chernyshevskii State Univ., Saratov). *Doklady Akad. Nauk S.S.S.R.* 73, 1201-4(1950); cf. *C.A.* 22, 3150; 35, 3024¹.—Although mixing of aq. solns. of Ph_4PNO_3 with salts of La, Ce, and Nd and subsequent evapn. gave merely the original components, the use of org. solvents led to isolation of complex salts, that were apparently based on coördination number 5 of the respective metals. Thus, 1.98 g. Ph_4PNO_3 (m. 284°) in 3 ml. 96% EtOH and 2 ml. $CHCl_3$ treated with 1 g. $La(NO_3)_3$ hydrate in 3 ml. 96% EtOH and evapd. at 30-40° gave 2.78 g. crystals, which lost H_2O of crystn. *in vacuo* over P_2O_5; the anhyd. salt, m. 187.5-8.0° (from EtOH-$CHCl_3$), obtained in 68.9% yield corresponded to $La(NO_3)_3.2Ph_4PNO_3$, and formed an octahydrate. It is sol. in MeOH, Me_2CO, and EtOH-$CHCl_3$ at room temp. or in warm pyridine, $(CH_2Cl)_2$, and $PhNH_2$; poorly sol. in cold EtOH, almost insol. in Et_2O, PhBr, C_6H_6, MePh, xylene, or CCl_4. Similarly prepd. were: $Ce(NO_3)_3.2Ph_4PNO_3$, m. 191.5° (from EtOH), which does not hydrate and whose soly. is similar to the above except for very poor soly. in $CHCl_3$ and in hot EtOH; $Pr(NO_3)_3.2Ph_4PNO_3$, greenish, m. 195° (from EtOH-$CHCl_3$), and $Nd(NO_3)_3.2Ph_4PNO_3$, m. 198° (from EtOH-$CHCl_3$), lilac-colored solid; their solubilities were similar to that of La deriv. G. M. Kosolapoff

SAKHAROVA, N.N.

CA

Double chlorides of lanthanum, cerium, and neodymium with tetraphenylphosphonium chloride. N. N. Sakharova (Saratov State Univ.). *Doklady Akad. Nauk S.S.S.R.* 77, 73-4(1951).—A warm soln. of $LaCl_3$, $CeCl_3$, or $NdCl_3$ in 96% EtOH (about 2.5 ml./g. salt), was mixed with a soln. of Ph_4PCl in the same solvent, the mixt. was cooled to room temp., a small amt. of Me_2CO or Et_2O was added until appearance of a slight turbidity, and the mixt. was left for 40-60 min. The cryst. product was colorless with La and Ce, lilac with Nd. Analysis corresponded to $MCl_3.Ph_4PCl.8H_2O$. Yields were 81.8-95.2%. The double salts are sol. in EtOH (96% and abs.), MeOH, C_5H_5N, $PhNH_2$, and EtOH + $CHCl_3$, insol. in Me_2CO, $CHCl_3$, Et_2O, C_6H_6, and PhMe. The soly. in EtOH decreases from La to Nd. In H_2O, the double salts decomp. into the simple chlorides. The m.ps. are, M = La, 114.5; Ce, 115.5; Nd, 117.5°. The dehydrated double salts appear amorphous, and remain sol. in the same org. solvents as the hydrated salts. N. Thon

SAKHAROVA, N. N.

USSR/Chemistry - Phosphorous Organic Compounds Oct 52

"Preparation of Tetraphenylphosphonium Bromide," G. V. Medoks, Ye. M. Soshestvenskaya, and N. N. Sakharova

Zhur Prik Khim, Vol 25, No 10, pp 1111-1114

A new variation of a method for preparing tetraphenylphosphonium bromide was developed. It was demonstrated that the new method is preferable to the original variation described earlier (Ya. Dodonov, G. Medoks, Berichte Vol 61, p 907, 1928).

263T54

SAKHAROVA, N.N.

20-5-36/67

AUTHOR SAKHAROVA, N.N.,

TITLE Complex Compounds of Lanthanum, cerium, Praseodymium and Neodymium with thiourea - (O kompleksnykh soyedineniyakh lantana, tseriya, prazeodima i neodima s tiomochevinoy - Russian)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 5, pp 1073-1075, (U.S.S.R.)

Received 7/1957 Reviewed 8/1957

ABSTRACT The ability of thiourea to form complex compounds with salts of various metals si very marked. It would be interesting to investigate this property with respect to the salts of the elements of rare earths of the cerium group. For this purpose the authoress used acid acetates of these elements. It was previously found that these salts of the aforementioned rare earths in water give several products with thioureax according to quantities and temperature. The greatest stability was shown by those in which one molecule of thiourea corresponded to each atom of rare earth, took an abunkant quantity of the latter in a neutral or slightly acid medium and subsequently removed the excess solvent. The properties of the products obtained are described. Formulae for aqueous and arid salts are given. There is on difference in the behaviour of the two latter forms of salts.

Card 1/2

AUTHORS: Sakharova, N.N., Zemskov, S.V. SOV/20-120-3-28/67

TITLE: Double Chlorides of the Elements of the Cerium Group With Trimethylamine Chloride (O dvoynykh khloridakh elementov tseriyevoy gruppy s khloridom trimetilamina)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 3, pp. 539-540 (USSR)

ABSTRACT:

Earlier the first author investigated double chlorides (Ref 1) and nitrites (together with G. V. Medoks, Ref 2) of the elements of the group in question with the corresponding tetraphenyl-phosphonium (Refs 3-5). Later Medoks (Ref 6) isolated double nitrates of lanthanum, praseodymium, and neodymium with triphenyl benzyl phosphonium. In continuation of the above mentioned papers the authors included the methylamine-dimethylamine- and trimethylamine chlorides in their investigations. They intended to clear up the nature of the complex formation of the chlorides of rare earths with the corresponding salts of the amides in question in the presence of water and in nonaqueous media according to their degree of substitution. As an introduction it was stated that the chlorides of the 4 metals from several

Card 1/3

Double Chlorides of the Elements of the Cerium Group With Trimethylamine Chloride SOV/20-120-3-28/67

compounds in the combination with trimethylamine chloride in the presence of 96%-ethyl alcohol, the formation of which is dependent upon the relative amounts of the substances entering interaction, and upon the crystallization conditions. As a result of the conducted work double chlorides of rare earths with trimethylamine in the presence 96%-ethanol were produced. They correspond to the general formuale $MeCl_3 \cdot 4(CH_3)_3N \cdot HCl$, where Me denotes La, Ce, Pr and Nd. The properties of these compounds were examined, and the solubility in water and organic solvents was determined. There are 6 references, 6 of which are Soviet.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im. N.G. Chernyshevskogo (Saratov State University imeni N. G. Chernyshevskiy)

PRESENTED: January 24, 1958, by I. I. Chernyayev, Member, Academy of Sciences, USSR

SUBMITTED: September 10, 1956

Card 2/3

Double Chlorides of the Elements of the Cerium Group With Trimethylamine Chloride SOV/20-120-3-28/67

1. Rare earth chlorides--Chemical reactions 2. Amine chlorides--Chemical reactions 3. Ethanol--Applications 4. Complex compounds--Properties 5. Organic solvents--Performance

Card 3/3

ACCESSION NR: AR4015652 S/0081/63/000/021/0078/0078

SOURCE: RZh. Khimiya, Abs. 21V21

AUTHOR: Sakharova, N. N.

TITLE: Complex compounds of rare earth elements of the cerium group with organic bases

CITED SOURCE: Uch. zap. Saratovsk. un-t, v. 75, 1962, 12-14

TOPIC TAGS: rare earth compound, complex rare earth compound, complex rare earth bromide, complex rare earth acetate, complex rare earth chloride, complex rare earth compound solubility, complex rare earth compound melting point

ABSTRACT: The author obtained binary bromides of La and Ce with tetraphenylphosphonium bromide in an alcohol medium and established the existence of complex compounds of the chlorides of La, Ce, Pr and Nd with the chlorides of dimethylammonium and trimethylammonium in an alcohol medium. It was found that the acetates of La, Ce, Pr and Nd form complexes with $Cs(NH_2)_2$ in a water medium. Crystals of $M(CH_3COO)_3 \cdot CS(NH_2)_2 \cdot xH_2O$, where M = La, Ce, Pr or Nd, form when water solutions of the acetates of rare earth elements are mixed with $CS(NH_2)_2$ at a ratio of 1:2 in a neutral or slightly acid medium at temperatures $\leq$ 55C. These compounds are

Card 1/2

ACCESSION NR: AR4015652

readily soluble in hot water, methyl alcohol, quinoline, pyridine and aniline, poorly soluble in ethyl alcohol and practically insoluble in benzene, toluene, acetone, chloroform and dichlorethane. The melting points of the complex compounds of La, Ce, Pr and Nd are 258-260, 220-225, 292-293 and 297-298C, respectively. T. Yermakova

DATE ACQ: 09Dec63 SUB CODE: CH ENCL: 00

SAKHAROVA, N.N.; AVDEYEV, V.P.

Reaction of hydrochlorides of aliphatic amines with samarium chloride in the presence of ethanol. Zhur. ob. khim. 35 no.7: 1171-1173 Jl '65. (MIRA 18:8)

1. Saratovskiy gosudarstvennyy universitet im. N.G. Chernyshevskogo.

FRONTAS'YEV, V.P.; SAKHAROVA, Yu.G.; SAKHAROVA, N.N.

Solubility in water of complex compounds of lanthanum, cerium, praseodymium, neodymium, and samarium acetates with thiourea. Zhur.neorg.khim. 10 no.8:1816-1821 Ag '65.

(MIRA 19:1)

1. Saratovskiy gosudarstvennyy universitet, kafedra neorganicheskoy khimii. Submitted December 6, 1963.

L 10443-66 EWT(m)/EPF(n)-2/EWP(j)/T/EWP(t)/EWP(b) IJP(c) JD/JG/RM
ACC. NR.: AP6000285 SOURCE CODE: UR/0078/65/010/009/2030/2035

41

AUTHOR: Sakharova, N. N.; 44,55 Avdeyev, V. P.

B

ORG: Department of Inorganic Chemistry, Saratov State University im. N. G. Chernyshevskiy (Kafedra neorganicheskoy khimii, Saratovskiy gosudarstvennyy universitet) 44,55

TITLE: Binary chlorides of lanthanum, cerium, praseodymium, and neodymium with dimethylamine chloride 27
27 27 27,55 27

SOURCE: zhurnal neorganicheskoy khimii, v. 10, no. 9, 1965, 2030-2035

TOPIC TAGS: lanthanum compound, cerium compound, praseodymium compound, neodymium compound, chloride, inorganic synthesis, rare earth metal

ABSTRACT: The authors synthesized and described twenty heretofore unknown binary chlorides of lanthanum, cerium, praseodymium, and neodymium with dimethylamine chloride of the composition $MeCl_3 \cdot x(CH_3)_2NH \cdot HCL \cdot 2H_2O$, where Me=La, Ce, Pr, and Nd, and x=1, 2, 4, 6, and 7. It was shown that the reaction between rare earth chlorides and dimethylamine chloride under certain conditions of synthesis occurs readily and forms complexes of double-salt type.

Card 1/2

7,44,55 UDC: 546.654.3'131/.657.3'131

L 10443-66
ACC. NR.: AP6000285

O

No binary salts could be prepared in which 3 or 5 molecules of the amine salt would correspond to 1 atom of the rare earth metal. At a ratio of initial substances of 1:8, binary chlorides of the composition $MeCl_3 \cdot 7(CH_3)_2NH \cdot HCl \cdot 2H_2O$ were always obtained. The five series of binary chlorides synthesized have individual sets of chemical properties.

SUB CODE: 07 /SUBM DATE: 15Apr64/ ORIG REF: 010/ OTH REF: 007

jc

Card 2/2

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SOV/139-59-5-11039

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, p 223 (USSR)

AUTHOR: Presnyakov, A.A., Sakharova, N.S.

TITLE: An Investigation Into the Microhardness of Some Cast Alloys on Zinc and Tin Base 18

PERIODICAL: Tr. In-ta yadern. fiz. AS KazSSR, 1958, Vol 1, pp 237 - 243

ABSTRACT: The author investigated the microhardness of the following alloys: Zn-Al ($\leq$ 5.5% Al), Zn-Cu ($\leq$ 3% Cu), Sn-Pb ($\leq$ 38% Pb), Sn-Sb ($\leq$ 10% Sb), Sn-Zn ($\leq$ 9% Zn) and Cu-Ni ($\leq$ 90% Ni). The alloys were studied in cast state prior to and after homogenization and also in the deformed state after annealing. The spread of microhardness values was taken as a measure of the segregational heterogeneity of the solid solution. It is pointed out that for systems with limited solubility of components in the solid state, the microhardness method can be used to determine the composition of the alloy where the secondary phase appears. It is asserted that heterogeneity of the cast grain according to the composition in Zn and Sn alloys

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81529

SOV/137-59-5-11039

An Investigation Into the Microhardness of Some Cast Alloys on Zinc and Tin Base

can not be completely eliminated, neither by extended homogeneization nor by plastic deformation with subsequent annealing. It is noted that a considerable grain growth occurs in extended homogeneization of Zn alloys (360°C, 250 hrs) until samples of monocrystalline cross-sections are obtained (5 - 8 mm in diameter). The possibility is admitted of applying the microhardness method for controlling the chemical composition of alloys.

L.Ye.

Card 2/2

SOV/126-6-5-19/43

AUTHORS: Presnyakov, A. A., and Sakharova, N. S.

TITLE: Study of Microhardness of Certain Cast Alloys Based on Zinc and Tin (Izucheniye mikrotverdosti nekotorykh litykh splavov na osnove tsinka i olova)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 5, pp 886-892 (USSR)

ABSTRACT: The authors measured the microhardness of cast alloys based on zinc and tin (Zn-Al, Zn-Cu, Sn-Sb, Sn-Pb, Sn-Zn) and of Cu-Ni alloys which contained some carbon. Samples were polished and etched. The following etchants were used: 5% alcohol solution of HCl - for zinc alloys; a 50-50% mixture of HNO_3 and glacial CH_3COOH - for Cu-Ni alloys; a mixture consisting of one part of HNO_3, one part of CH_3COOH and eight parts of glycerine - for Sn-Pb and Sn-Zn alloys; a very dilute alcohol solution of HNO_3 - for Sn-Sb alloys. After etching, microhardness of the alloys was measured by means of a PMT-3 instrument with the following loads: 20 g for Cu-Ni alloys, 10 g for Zn alloys, 5 g for Sn alloys. 200 indentations were made on each sample. Microhardness

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SOV/126-6-5-19/43

Study of Microhardness of Certain Cast Alloys Based on Zinc and Tin

(H_μ) was found to be related to various properties of alloys, e.g. dendritic non-uniformity can be expressed as a function of the scatter of microhardness (the difference between the maximum and the minimum values H_μ). It was found that dendritic non-uniformity increases with the amount of the second component of the Zn and Sn alloys, i.e.with the amount of Al, Cu, Ni, Pb, Zn and Sb. This is shown in Table 1, where the second column gives the amount of the second component, while the third, fourth and fifth colums give the scatter of H_μ in cast, quenched and annealed alloys respectively. Homogenization of zinc alloys (360°C for 250 hours)and of tin alloys(160°C for 100 hours) or plastic deformation by 50% with subsequent annealing, failed to remove completly the non-uniformity of cast samples. Homogenization of Zn-Al alloys produced very large grains, with occasional monocrystalline cross sections. The scatter of H_μ across monocrystalline surfaces was found to be the same as in polycrystals. Non-uniformity

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SOV/126-6-5-19/43

Study of Microhardness of Certain Cast Alloys Based on Zinc and Tin

after deformation and annealing, or after homogenization, was found to be greater in alloys with larger amounts of the second component. The data on uniformity of alloys deduced from microhardness measurements were confirmed by microscopic observations (Tables 2,3). Figs. 1 and 2 show that at certain concentrations of the second component in Zn-Cu and Sn-Zn alloys both $H_{\mu\ max}$ and $H_{\mu\ min}$ curves have a "plateau"; this plateau is the region of saturation of the solid solution. Values of H_μ may be used also to find the effect of the second component on the mechanical strength of alloys (Table 4). The increase in mechanical strength is related to the value of $H_{\mu s}-H_{\mu p}$, where $H_{\mu p}$ is microhardness of a pure metal and $H_{\mu s}$ is microhardness of a saturated solid solution. Aluminium and copper have the same effect on zinc: they increase H_μ from 50 kg/mm^2 for pure zinc to 80 kg/mm^2 for saturated solid solutions. Tin is strengthened by additions of lead, zinc and antimony (H_μ is increased from 15 to 19, 24 and 29 kg/mm^2

Card3/4

SOV/126-6-5-19/43

Study of Microhardness of Certain Cast Alloys Based on Zinc and Tin

respectively). Microhardness can be used also as a rough substitute for chemical analysis: an accidental addition of copper to one of the alloys was found to produce a different pattern of microhardness.
There are 2 figures, 4 tables and 7 Soviet references.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Kazakhskoy SSR
(Physico-Technical Institute, Ac.Sc. of the Kazakh SSR)

SUBMITTED: January 18, 1957

Card 4/4

SAKHAROVA, N.S.

2(0) PHASE I BOOK EXPLOITATION SOV/2838

Akademiya nauk Kazakhskoy SSR. Institut yadernoy fiziki

Trudy/Labratoriya metallovedeniya i fiziki metallov/, tom 2 (Transactions of the Institute of Nuclear Physics, Kazakh S.S.R. Academy of Sciences /Laboratory for Metallurgical Science and Physics of Metals/, Vol 2) Alma-Ata, Izd-vo AN Kazakhskoy SSR, 1959. 169 p. 1,000 copies printed.

Ed.: F. Ya. Osadchiy; Tech. Ed.: P.F. Alferova; Editorial Board: I.G. Grisman, L.I. Dautova, I.G. Dem'yanikov, D.K. Kaipov (Resp. Ed.), S.K. Kalinin, A.A. Presnyakov, and Zh. S. Takibayev.

PURPOSE: This is a collection of articles intended for research scientists, factory laboratory personnel, engineers, technicians, and also students and Aspirants in metallurgy and physics of metals.

COVERAGE: The collection contains research reports which investigate the dependency of alloy properties on their chemical and phase states in a wide range of temperatures down to melting point and set forth much factual material on aluminum, copper, nickel, and other alloys. Theoretical ideas on plasticity and superplasticity, which are described as new, and hypotheses on reasons for the lowered plasticity of solid solutions are propounded on the basis of experimental data. No personalities are mentioned. References are given at the end of each article.

Presnyakov, A.A., and A.V. Novikov. Study of the Mechanical Properties of Bronzes With Zinc, Phosphorus, Lead, and Nickel Additives 41
1. Study of the microhardness of bronzes 41
2. Change in plasticity and strength of bronzes with phosphorus, zinc, nickel, and lead additives during static loading 48
3. The aging of Sn-P and Sn-Zn-Pb bronzes 59

Presnyakov, A.A., and U.K. Duysemaliyev. Plasticity of Some Copper-Nickel and Nickel Alloys During Dynamic Loading 74

Presnyakov, A.A., and N.S. Sakharova. Investigation of Some Tin Base Alloys 78

Presnyakov, A.A., and Yu.F. Klyuchnikov. Fine Crystal Structure and the Properties of Nonferrous Metal Alloys 85
1. Fine crystal structure and properties of alloys of the Cu-Ni system 85
2. Fine crystal structure and the properties of simple bronzes 89

Presnyakov, A.A. Reasons for the Decrease in Plasticity of Solid Solutions 95

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